VALVAN

Valvan Fibersort accelerates textile recycling with automated AI-based sorting

SIMATIC PLC

Edge computing

TIA Portal & PROFINET

SINAMICS S7-1516

Customer Challenge

- The textile recycling industry struggles to sort large volumes of post-consumer textiles accurately and efficiently by fiber composition and color — a critical step to enable high-value recycling (e.g., textile-to-textile, rather than downcycling). Manual sorting is slow, inconsistent, and often unable to provide the quality feedstock needed for advanced recycling processes.

Solution

- Valvan developed **Fibersort®**, an automated textile sorting technology that uses AI models, near-infrared spectroscopy (NIRS), and RGB camera analysis to identify and separate textiles based on fiber composition and color, processing up to around **2,000 garments per hour** for recycling.

Customer benefit

- **Higher throughput & precision:** Automated sorting drastically increases processing speed and consistency compared to manual methods.
- **Improved recycling quality:** Sorted output enables more reliable and higher-value recycling pathways, helping recyclers turn textile waste into quality feedstock for new materials.
- **Enables circular economy goals:** By addressing a core bottleneck in textile recycling, Fibersort supports industry efforts to reduce waste and enhance resource reuse at scale.

SIEMENS